IN THE CLAIMS

1.   (currently amended) A computer-accessible medium comprising:

a translator that is operable to receive a non-procedural image annotation template to enable text DICOM information to be embedded on a medical image, the translator being operable to translate the non-procedural image annotation template to image annotation source code that is executable by an medical image viewer; and

a compiler operably coupled to the translator, the compiler being operable to receive the image annotation source code and to compile the source code into an image annotation executable adapted to be installed on a medical imaging system to enable the medical image including the embedded text to be viewed on the medical image viewer.

2.   (original) The computer-accessible medium of claim 1, wherein the non-procedural image annotation template further comprises a mixture of XML (Extensible Markup Language) and conventional numerical expressions based on C language syntax.

3.   (original) The computer-accessible medium of claim 1, wherein the image annotation executable further comprises an annotation presentation description.

4.   (original) The computer-accessible medium of claim 1, wherein the translator further comprises:

an iterator object for an expression tree of the non-procedural image annotation template; and

a lexical analyzer of the procedural image annotation template.

5.   (original) The computer-accessible medium of claim 1, wherein the image annotation source code further comprises an object-oriented image annotation source code and the compiler further comprises an object-oriented compiler.

6.   (previously presented) The computer-accessible medium of claim 5, wherein the object-oriented image annotation source code further comprises high-level language image annotation source code and the object-oriented compiler further comprises a high-level language compiler.

7.   (previously presented) The computer-accessible medium of claim 1, wherein the image annotation executable further comprises instructions that are native to a processor of a medical imaging system.

8.   (currently amended) A computer-accessible medium having executable instructions to generate a medical image annotation executable from a non-procedural image annotation template to annotate images, the executable instructions capable of directing a processor to perform:

translating the non-procedural image annotation template to image annotation source code, wherein non-procedural image annotation template comprises non-procedural expression of DICOM calculations and operations to annotate a medical image with embedded text and wherein the procedural image annotation source code comprises procedural expression of the DICOM calculations and operations to enable a medical imaging system to annotate the medical image with embedded text; and

compiling the image annotation source code into an image annotation executable.

9.   (original) The computer-accessible medium of claim 8, wherein the compiling further comprises:

targeting the compiling to an instruction set of a processor of an imaging system.

10.   (original) The computer-accessible medium of claim 8, further comprising executable instructions capable of directing a processor to perform:

transferring the image annotation executable to the medical imaging system.

11.   (canceled)

12.   (original) The computer-accessible medium of claim 8, wherein the non-procedural image annotation template is written in a language that does not require procedural operations and wherein the procedural image annotation source code further comprises calculations and operations to annotate the medical image with embedded text.

13.   (currently amended) A development system stored on a computer-accessible medium, the development system comprising:

apparatus operable to translate a non-procedural image annotation template to image annotation source code, wherein non-procedural image annotation template comprises non-procedural expression of <u>DICOM</u> calculations and operations to annotate a medical image with embedded text and wherein the procedural image annotation source code comprises procedural expression of the <u>DICOM</u> calculations and operations to annotate the medical image with the embedded text; and

apparatus operable to compile the image annotation source code into a medical image annotation executable, to an instruction set of a processor of a medical imaging system.

14.   (previously presented) The development system of claim 13, further comprising:

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apparatus operable to transfer the image annotation executable to an imaging system.

15. (original) The development system of claim 13, wherein the non-procedural image annotation template is written in a language that does not require procedural operations and wherein the procedural image annotation source code further comprises calculations and operations to annotate the medical image with embedded text.

16. (canceled)

17. (currently amended) ~~The translator of claim 16, wherein the parser of the non-procedural image annotation template~~ The computer-accessible medium of claim 1 wherein the translator further comprises:

a parser that comprises an initiator of a parser of the non-procedural image annotation template, the parser being compliant with the Simple API (Application Programming Interface) for XML standard;

an element starter;

an element parser;

an element ender; and

an element attacher.

18. (currently amended) ~~The translator of claim 16,~~ The computer-accessible medium of claim 17 wherein the translator of the parsed non-procedural image annotation template further comprises:

a writer of high-level language class package source code;

a writer of high-level language import statement source code;

a writer of high-level language class declaration source code;

a writer of high-level language variable declaration source code; and

a filler of hash table representing at least one DICOM (Digital Imaging and Communications in Medicine) element of the high-level language source code.

19.   (currently amended) ~~The translator of claim 18,~~ The computer-accessible medium of claim 18 wherein the filler of hash tables representing elements of the high-level language source code further comprises:

a writer of high-level language source code that constructs a group tree as described by the elements of the non-procedural image annotation template;

a writer of high-level language source code that loads assigner attributes in an ApStyle (Annotation Presentation Style) object and hashes with instances of run-time class declarations;

a writer of high-level language source code that loads a data structure adapted for storage of DICOM elements with all DICOM elements that are required for annotation;

a writer of high-level language source code that loads the data structure adapted for tool-tip data with character strings;

a writer of high-level language source code that initializes a layout data structure that is designed to hold annotation strings for each quadrant, line, and segment;

a writer of high-level language source code that invalidates all variable contents, as one would use if this object was assigned to control annotation of another image;

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a writer of high-level language source code that generates comments that document a runtime variable updates object; and

a writer of high-level language source code that evaluates expressions in order of dependencies.

20-25. (canceled)

26. (currently amended) A high-level language-based system comprising:

hardware apparatus operable to parse a non-procedural image annotation template comprising:

hardware apparatus operable to initialize a parser of the non-procedural image annotation template, the parser being compliant with the Simple API for XML standard;

hardware apparatus operable to start an element of the non-procedural image annotation template;

hardware apparatus operable to parse an element of the of the non-procedural image annotation template using the parser;

hardware apparatus operable to end an element of the non-procedural image annotation template; and

hardware apparatus operable to attach the parsed element,

hardware apparatus operable to repeat the starting, parsing, ending and attaching for each element of the non-procedural image annotation template, yielding a parsed non-procedural image annotation template,

the high-level language-based system further comprising:

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hardware apparatus operable to write a high-level language class package;

means for writing high-level language import statements;

hardware apparatus operable to write high-level language class declarations;

hardware apparatus operable to write high-level language variable declarations; and

hardware apparatus operable to fill hash tables representing DICOM elements of high-level language source code; and

hardware apparatus for translating the non-procedural image annotation template to image annotation source code that is executable by an medical image viewer.

27.   (previously presented) The high-level language-based system of claim 26, wherein the non-procedural image annotation template further comprises a mixture of XML and conventional numerical expressions based on C language syntax.

28.   (currently amended) A computer-accessible medium The computer-accessible medium of claim 1, further comprising:

a template repository that is operable to store one or more non-procedural image annotation templates, the non-procedural image annotation templates each adapted to enable text to be embedded on a medical image;

a storer of the one or more non-procedural image annotation templates, operably coupled to the template repository; and

a selector of the one of the non-procedural image annotation templates, operably coupled to the template repository.

29.   (original) The computer-accessible medium of claim 28, wherein the one or more non-procedural image annotation templates further comprises a computed tomography non-procedural image annotation template.

30.   (previously presented) The computer-accessible medium of claim 28, wherein the one or more non-procedural image annotation templates further comprises a magnetic-resonance non-procedural image annotation template.

31-33. (canceled)

34.   (currently amended) A computer-accessible medium comprising:

a translator operable to translate an image annotation template into image annotation source code;

a compiler operable to translate the image annotation source code into an image annotation executable; and

an image viewer, operable to receive the image annotation executable, an image and an image annotation object, the image annotation object containing text to be embedded on a medical image, the image viewer being operable to execute instructions contained in the image annotation executable and using text from the image annotation object, and the image viewer being operable to generate an annotated medical image that is annotated with the text from the image annotation object.

35.   (original) The computer-accessible medium of claim 34, wherein the instructions further comprise computer instructions that are native to a processor, the processor being operably coupled through a bus to the computer-accessible medium.

36.   (original) The computer-accessible medium of claim 34, wherein the image annotation executable further comprises an image annotation executable that is compiled from a non-procedural image annotation template.

37.   (original) The computer-accessible medium of claim 34, wherein the image annotation executable further comprises an annotation presentation description.

38.   (original) The computer-accessible medium of claim 34, wherein the image annotation object further comprises the image.

39.   (original) The computer-accessible medium of claim 37, wherein the image annotation object further comprises an image annotation object that conforms to standard that defines data elements in object-oriented terms, each object having a unique tag, name, characteristics and semantics.

40.   (original) The computer-accessible medium of claim 34, wherein the image further comprises an unannotated image.

41.   (original) The computer-accessible medium of claim 34, wherein the image annotation executable further comprises:

an object to select a style class object that is appropriate for imaging of a modality; and

an instantiated style class object.

42.   (original) The computer-accessible medium of claim 41, wherein the modality is selected from a group consisting of magnetic resonance, computed tomography, X-ray, ultrasound and positron emission tomography.

43.   (original) The computer-accessible medium of claim 41, wherein the viewer further comprises:

an object to invoke one or more methods in the object that selects a style class object that is appropriate for imaging of a modality; and

an object to receive parsed annotation data and the image from the image annotation object through a host image annotation parser, and to forward the image and text to the style class object that is appropriate for imaging of a modality.

44.   (original) The computer-accessible medium of claim 43, wherein the style class object that is appropriate for imaging of a modality further comprises:

a method to forward the image and text to a host text drawer in the viewer; and

a method to forward the image and text to a graphic utilities object that is native to an operating system that is running on a processor that is operably coupled to the computer-accessible medium, whereupon the graphic utilities object is to generate the annotated image.

45.   (currently amended) A computer-accessible medium having executable instructions to generate and view an annotated medical image, from an image annotation object and an annotation presentation description, the image annotation object having an image, the annotation presentation description having instructions that are native to a processor that is operably coupled to the computer accessible medium, the executable instructions capable of directing the processor to perform:

receiving the annotation presentation description and the image annotation object, wherein the annotation presentation description comprises an annotation presentation description that is compiled from a non-procedural image annotation template and has instructions that are native to a processor that is operably coupled to the computer accessible medium; and

invoking the native instructions contained in the annotation presentation description and using text from the image annotation object, to generate and view the annotated medical image that is annotated with the text from the image annotation object.

46.   (original) The computer-accessible medium of claim 45, wherein the annotation presentation description further comprises an annotation presentation description that is compiled from a non-procedural image annotation template.

47.   (original) The computer-accessible medium of claim 45, wherein the image annotation object further comprises an image annotation object that conforms to standard that defines data elements in object-oriented terms, each object having a unique tag, name, characteristics and semantics.

48.   (original) The computer-accessible medium of claim 45, wherein the annotation presentation description further comprises executable instructions capable of directing the processor to perform:

selecting a style class object that is appropriate for imaging of a modality; and

instantiating the selected style class object.

49.   (original) The computer-accessible medium of claim 48, wherein the modality is selected from a group consisting of magnetic resonance, computed tomography, X-ray, ultrasound and positron emission tomography.

50.   (original) The computer-accessible medium of claim 45, wherein the executable instructions further comprise executable instructions capable of directing the processor to perform:

receiving parsed annotation data and the image from the image annotation object through a host image annotation parser; and

forwarding the image and text to a graphic utilities object that is native to an operating system that is running on the processor, whereupon the graphic utilities object is to generate and view the annotated image.

51.   (currently amended) A method to generate and view an annotated medical image, from an image annotation object having an image and an annotation presentation description, ~~wherein the annotation presentation description further comprises an annotation presentation description that is compiled from a non-procedural image annotation template and has instructions that are native to a processor that is operably coupled to the computer accessible medium~~, the method comprising:

receiving the annotation presentation description and the image annotation object, the image annotation object containing text<u>, wherein the annotation presentation description comprises an annotation presentation description that is compiled from a non-procedural image annotation template and has instructions that are native to a processor that is operably coupled to the computer accessible medium</u>; and

invoking the native instructions contained in the annotation presentation description and using text from the image annotation object, to generate and view the annotated medical image that is annotated with the text from the image annotation object.

52.   (original) The method of claim 51, wherein the image annotation object further comprises an image annotation object that conforms to the Digital Imaging and Communications in Medicine standard.

53.   (original) The method of claim 51, further comprising:

selecting a style class object that is appropriate for imaging of a modality, wherein the modality is selected from a group consisting of magnetic resonance, computed tomography, X-ray, ultrasound and positron emission tomography; and

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instantiating the selected style class object.

54.   (original) The method of claim 51, further comprising:

receiving parsed annotation data and the image from the image annotation object through a host image annotation parser; and

forwarding the image and text to a graphic utilities object that is native to an operating system that is running on the processor, whereupon the graphic utilities object is to generate the annotated image.

55-69. (canceled)

70.   (original) A computer-accessible medium having executable instructions to generate an annotated medical image, an image annotation object and an annotation presentation description, the executable instructions capable of directing a processor to perform:

invoking executable instructions that are native to the processor, the executable instructions being contained in the annotation presentation description, operands to the native computer instructions including text, the image annotation object being encoded according to a standard that defines data elements in object-oriented terms, the image annotation object having a unique tag, name, characteristics and semantics;

annotating an original medical image with the text from the image annotation object; and

displaying the annotated image on a visual display.

71.   (original) The computer-accessible medium of claim 70, wherein the executable instructions further comprise annotation calculations and operations.

72. (previously presented) The computer-accessible medium of claim 70, wherein the displaying further comprises a displaying of the annotated image in a browser.

73. (original) The computer-accessible medium of claim 70, wherein the processor further comprises a processor of a medical imaging device.

74. (original) The computer-accessible medium of claim 70, wherein the original image further comprises an original image contained with the image annotation object.

75-81. (canceled)